

CLAIMS:

What is claimed is:

1 1. A method comprising:
2 receiving information for transmission to a receiver; and
3 generating a plurality of sub-carriers to redundantly transmit the information to a user
4 over a multi-carrier wireless communication channel, wherein each of the sub-carriers is
5 modified by a set of complex weights to ensure that each of the sub-carriers of the wireless
6 communication channel propagates along a different physical path to the receiver.

1 2. A method according to claim 1, wherein each element of the set of complex weights
2 scales one or more of a sub-carriers amplitude and/or phase at an associated transmission
3 antenna.

1 3. A method according to claim 1, wherein developing a set of complex weights comprises:
2 choosing substantially different weights for each sub-carrier sharing information; and
3 iteratively repeating until all sub-carriers have been modified.

1 4. A method according to claim 3, wherein the substantially different weights are chosen to
2 be orthogonal to the others.

1 5. A method according to claim 3, wherein developing a set of complex weights comprises:
2 selecting weight vector(s) to be applied to each of the sub-carriers from a pre-determined
3 set of weight vectors.

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1 6. A method according to claim 1, further comprising:
2 transmitting the modified sub-carriers through one or more antenna(e) to the receiver.

1 7. A transceiver comprising:
2 a diversity agent, to selectively develop and apply a set of complex weight values to each
3 of a plurality of signals, each corresponding to a sub-carrier of a multi-carrier communication
4 channel, to introduce spatial diversity between such sub-carriers; and
5 a transmit module, coupled with the diversity agent, to receive the modified sub-carriers
6 and transmit the signals to generate a multi-carrier communication channel with intra-channel
7 spatial diversity.

1 8. A transceiver according to claim 7, wherein the plurality of signals received from at the
2 diversity agent are baseband signals.

1 9. A transceiver according to claim 7, wherein the multi-carrier communication channel is
2 comprised of a plurality of sub-carrier signals, each having a disparate set of complex weights
3 introduced at a baseband of the sub-carriers to effect the spatial diversity between the sub-
4 carriers.

1 10. A transceiver according to claim 7, wherein each of the set of complex weights are
2 comprised of a plurality of weight values each associated with one of a plurality of antennae
3 comprising an antenna array through which the sub-carriers are transmitted.

